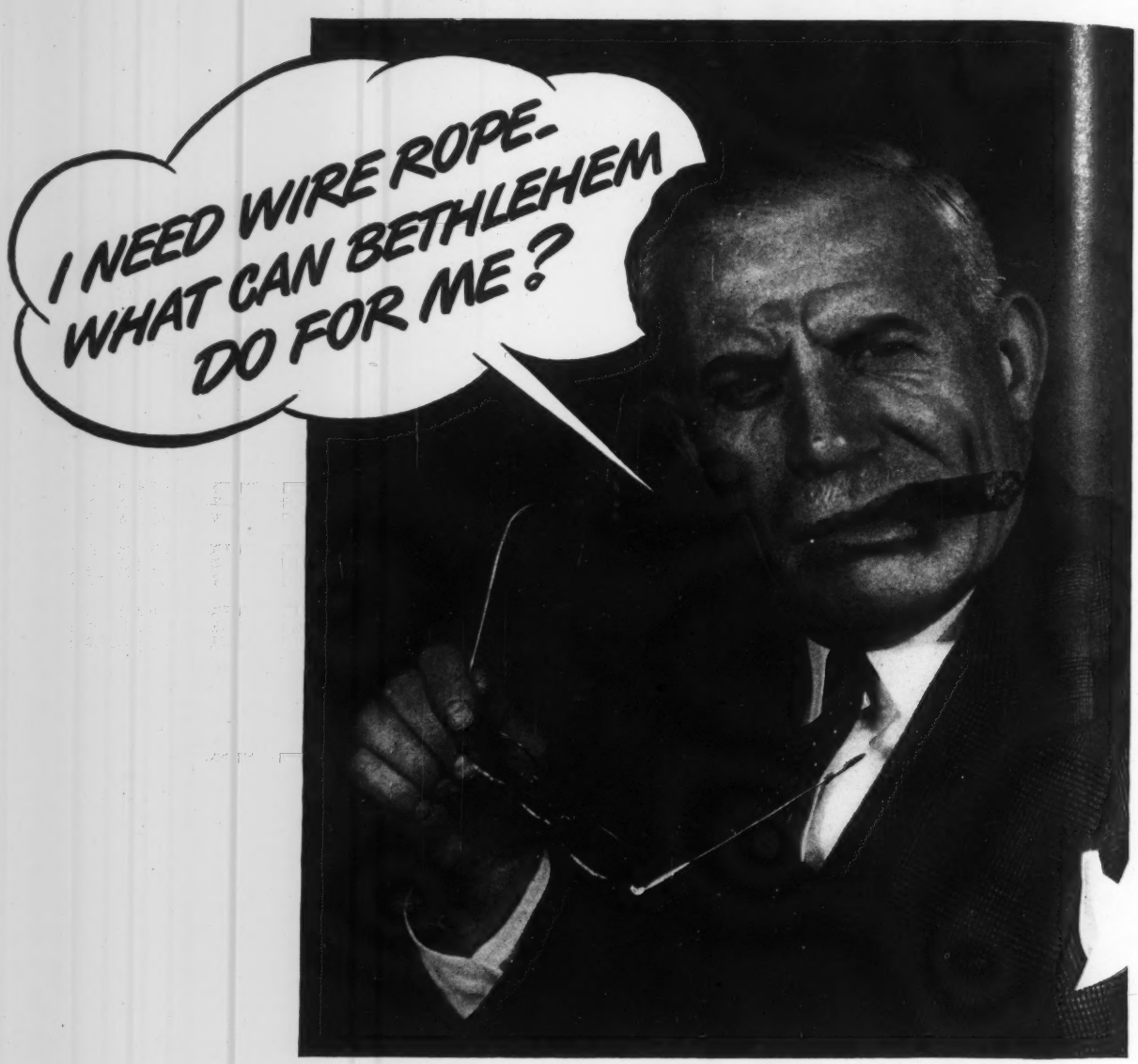
ENGINEERING NEWS-RECORD

Railroad-auto overpasses speed traffic flow to a California war plant.



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The Week In Engineering and Construction

ENGINEERING NEWS-RECORD • JANUARY 21, 1943 • VOLUME 130 • NUMBER 3

See allocation of sanitary engineers as next WMC move

Men would be directed to continue or change jobs, or to join armed services under new plan. McNutt takes over Research Council group to work out procedures

Sanitary engineers will probably soon be placed under a system of allocation similar to that now used for doctors, dentists, and veterinarians.

Under such a system, sanitary engineers would be told whether they should continue in their present job, shift to a more essential job, or accept a commission in the Army or the Public Health Service.

Arrangements will presumably be worked out under which compliance with such directives could be enforced through the Selective Service System. The system now followed with doctors is that a physician who disregards instructions from the Procurement and Assignment Service to take an Army commission is warned that unless he does so he will be drafted, dependents or no.

Prime purpose of the new move, however, is not so much to force sanitary engineers into uniform as to protect colleges, municipalities, and state health services from complete depletion of their staffs by Army and Public Health Service recruiting activities. The supply of sanitary engineers is now so tight that this has become a serious problem. During the coming year it is expected that the Army Sanitary Corps will double in size, the Navy will need substantial numbers of engineers, and the Public Health Service will need at least 200 more. Meanwhile, state health services have lost about 40 percent of their men, on the average, and in some cases the losses have run as high as 90 percent.

Organize committee

To deal with this situation, Manpower Commissioner McNutt has set up a committee on sanitary engineers within the Procurement and Assignment Service. This committee will have the job of negotiating with the armed services and Public Health as to their minimum requirements, working out enforcement procedures with Selective Service, and setting up allocation machinery. Because of the comparatively small number of sanitary engineers, this last will probably be done on a national rather than a state basis.

The committee will probably also formulate recommendations for training of additional sanitary engineers.

To form the membership of the committee McNutt has taken over bodily a committee already set up by the National Research Council (*ENR* Jan. 14, p. 20). Chairman of this group is Abel Wolman, professor of sanitary engineering at Johns Hopkins University. Other members are:

Kenneth F. Maxcy, Secretary, Professor of Epidemiology, The School of Hygiene and Public Health, The Johns Hopkins University, Baltimore, Md.

Harold E. Babbitt, Professor of Sanitary Engineering, University of Illinois, Urbana, Illinois.

F. C. Bishopp, Assistant Chief, Bureau of Entomology and Plant Quarantine, U. S. Department of Agriculture, Washington, D. C.

V. M. Ehlers, Chief Engineer, Texas State Board of Health, Austin, Texas.

Gordon M. Fair, Professor of Sanitary Engineering, Harvard University, Cambridge, Massachusetts.

H. A. Whittaker, Chief Engineer, Division of Sanitation, State Department of Health, Minneapolis, Minnesota.

J. K. Hoskins, Senior Sanitary Engineer, Public Health Service, Washington, D. C.

TO MEET the shortage of fuel oil, Lakeland, Fla., is using city garbage and trash as supplementary fuel at its light and water plant, making a saving of $30 a day on fuel costs alone.

Press Assn Photo

Woman-power builds China airport

Using primitive methods and equipment, Chinese women are shown here working to enlarge an American airfield "somewhere in China."

Although they are working as common laborers' moving the heavy materials shown in the lower left foreground of the picture, these are women for all that. The group in the center foreground has stopped while one worker helps a sister adjust her hair.

Hand labor of this type, using nothing more than hoes and shovels, with baskets to carry away materials, has been responsible for building many of the fields used by our air forces throughout the unoccupied Chinese territory.

Massachusetts fire hazard committee named

Governor Leverett Saltonstall of Massachusetts recently appointed a committee of three building and safety experts to advise him and the state legislature on safety provisions in building and fire laws designed to prevent a repetition of the recent disaster when fire wrecked a night club in Boston.

Members of the committee are William Roger Greeley, of Lexington, president of the Boston Society of Architects, who will act as chairman; Elliot P. Knight, superintendent of the engineering department, Employers Liability Assurance Corp. Ltd., Boston; and Morton C. Tuttle, president of Morton C. Tuttle Co., Boston, construction engineers.

Dudley Harmon, executive vice president of the New England Council, Boston, is secretary of the committee. Members will serve without compensation.

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Mexico-U. S. rail link gets preference in program

Connection of main United States railroads with the Mexican National Railways through Laredo, Tex. will receive preference in a program of reconstruction of key sections of the railways under a recently made agreement with the United States government (*ENR*, Nov. 19, 1942, p. 691), according to railway officials.

The improvements will provide direct connection between Laredo, Tex., Mexico City, and Suchiate, Chiapas State, on the Guatemalan border, according to railway officials. These improvements are counted upon to afford a first class rail connection between the American and Guatemalan borders for Mexico's military and civilian services, and her war cooperation with the United States.

To afford more money for the advancement of the railroad construction and reconditioning program, President Manuel Avila Camacho recently authorized increasing the 1942 issue of railroad bonds by about $1,810,000. These bonds bear 3 percent semi-annual interest and are redeemable within ten years.

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Canadian provinces plan $40,000,000 power plant

Following closely the signing on Januafy 12 of an agreement between the provinces of Quebec and Ontario for joint development of power resources of the Ottawa River, Thomas Hogg, chairman of the Ontario Hydro-Electric Power Commission announced that construction will start this spring on a $40,000,000 development.

The agreement between the provinces, long under negotiation (*ENR* Sept. 10, 1942, p. 338) calls for joint development of the river's potential power resources as a means of alleviating current power shortages and to insure future adequate supplies for industry.

The new power development, Mr. Hogg said, will be built between Pembroke and Mattawa, Ont., and will employ about 2,500 men on construction operations. No further details were revealed.

Appoint studies chief for Central Valley project

George W. Howson, of Fresno, Calif., has been appointed field co-ordinator of the Central Valley Project studies, with headquarters at Sacramento, according to Commissioner John C. Page of the U. S. Bureau of Reclamation.

Mr. Howson, who recently has been in charge of the Kings River Project investigations for the bureau, will act as a full-time assistant to Dr. Harlan H. Barrows, director of the studies. The studies were launched in December (*ENR*, Dec. 10, 1942, p. 818) with the announcement of a list of 24 basic problems that are designed to determine how the project may contribute in the largest measure to the preservation and further development of agriculture, industry and commerce.

A native of Sacramento, Mr. Howson was graduated in civil engineering at the University of California.

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Illinois completing huge road repair program

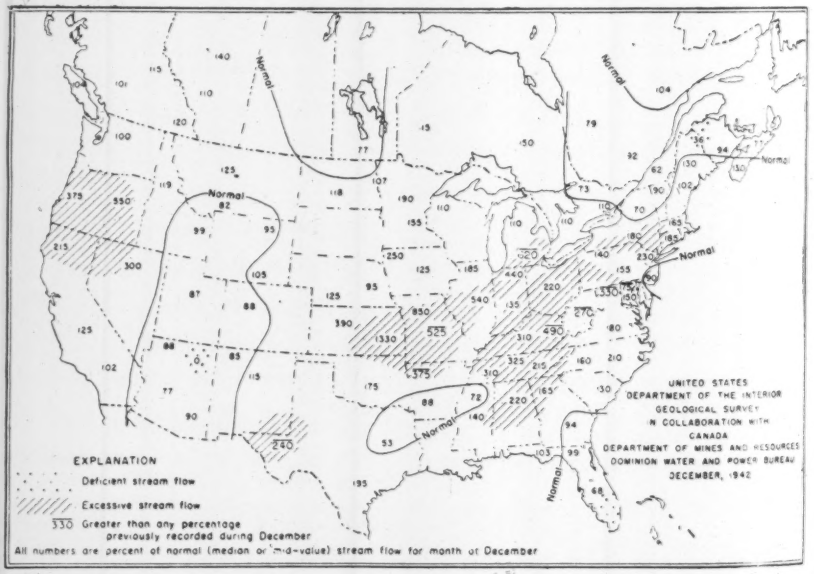
Illinois is putting the finishing touches on its biggest highway repair job—a $9,500,000 program of pavement patching and resurfacing evolved to keep the state's main traffic arteries in good condition in spite of war restrictions.

For the first time, the highway division utilized private contractors extensively for the patching projects. In addition, according to Chief Highway Engineer Wesley W. Polk, 190 miles of pavements were resurfaced.

Stream flow data notes recent floods; ground water favorable

The country-wide pattern of water conditions in December, in its general features, was very much the same as during November. Features were: (1) marked excesses in stream flow in broad areas extending from the central plains to the Atlantic coast with damaging floods along the Ohio river, Tennessee River basin, and in Alabama, Oklahoma, Arkansas, Kansas and Missouri; (2) excessive stream flow in Oregon and northern California with damaging floods in the Willamette River basin; (3) deficient stream flow in southern Florida, southern Quebec and in northern New England and New Brunswick; (4) subnormal stream flow in the intermountain region from Wyoming south through Arizona with drought conditions in Arizona; (5) generally favorable ground water stages.

Groundwater storage increased generally during the month in states along the Atlantic and Pacific coasts and in the central portion of the Middle West.


Normal
EXPLANATION
Deficient stream flow
Excessive stream flow
330 Greater than any percentage previously recorded during December
All numbers are percent of normal (median or mid-value) stream flow for month of December
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
IN COLLABORATION WITH
CANADA
DEPARTMENT OF MINES AND RESOURCES
DOMINION WATER AND POWER BUREAU
DECEMBER, 1942

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Morris and Newkirk are nominated for Waterworks association leadership

Directors of American Waterworks Association consider handling of "surplus" inventories, discuss alternate specifications

Samuel B. Morris, dean of engineering, Stanford University, and Samuel F. Newkirk, Jr., engineer and superintendent of the Board of Water Commissioners, Elizabeth, N. J., were nominated for the office of president and vice president, respectively, of the American Water Works Association, at a meeting of the directors held in New York on Jan. 18. W. W. Brush, editor of *Water Works Engineering*, who has served the association for 17 years as treasurer, was renominated for that post.

S. B. Morris

Prof. Morris, member of the association since 1920, and a prime mover in the affairs of the California section, is now serving as vice president of the national body. Prior to becoming executive head of the civil engineering department at Stanford in 1935, he was chief engineer of the Pasadena water department for 22 years. Prof. Morris graduated from Stanford in 1911.

Sam Newkirk, a graduate of Penn State in 1913, has long been identified with the design and operation of private and municipal water supply and sewage treatment works. From 1921 to 1927, he was engineer for the National Board of Fire Underwriters in New York. In 1927 he became superintendent of the Elizabethtown Water Co., and in 1931 assumed his present post with the Elizabeth Board of Water Commissioners.

"Surplus" inventory disposal

In addition to the nomination of officers, the agenda of the AWWA directors included a study of ways and means to facilitate handling of "surplus" inventories now held by waterworks. A WPB directive issued several months ago ordered waterworks utilities to reduce inventories of supplies and equipment 40 percent below that which was carried in stock in 1940. Amounts above this figure must be offered for sale to other waterworks. How municipalities are to do this without violating existing local legal restrictions is one of the major problems to which the directors addressed themselves. Their findings will be incorporated in a resolution offered to the WPB for its guidance.

Other business included discussions on alternate specifications for wartime use, details of which are not yet available.

The board of directors also announced the election of the following honorary members: George C. Bunker, consulting engineer, Caracas, Venezuela; William R. Conard, consulting engineer, Burlington, N. J.; and William W. Hurlbut, general manager, bureau of waterworks and supply, Los Angeles.

S. F. Newkirk

Recipients of the John M. Goodell prize, established in 1931 under terms of an endowment by *Engineering News-Record*, were W. F. Langlier, associate professor of sanitary engineering, University of California, and H. F. Ludwig, graduate student. The award was made for their paper, "Graphical Methods for Indicating the Mineral Characteristics of Natural Waters," published in the March, 1942, *Journal*.

Earl Devendorf, associate sanitary engineer, New York State Department of Health, was selected to receive the Diven Medal, in recognition of his leadership of mutual aid activities in New York State.

Harry E. Jordan, secretary of the association, announced that the membership as of Dec. 31 was 4,441 members. This compares with 4,177 last year.

Canada eases limits on construction labor

Canada's construction industry is to be exempted from the so-called "seven-day" clause of existing National Selective Service regulations, to permit the industry to employ skilled workers for short periods of time each.

The provision, approved last September, dictates that no employee could be dismissed or could leave a job without seven days notice being given. Intent of the law was to reduce the labor turn-over and thereby increase industrial efficiency.

Construction industry representatives protested the clause on the grounds that the special nature of much construction work often requires the services of skilled workers for very short periods of time, and that climatic and other special conditions also affect tenure of employment to a point where such a requirement might become burdensome to the industry and might even tie up labor supplies.

• • •

Milwaukee adopts 6-year improvement program

A permanent six-year improvement program that will involve the expenditure of a total of $3,540,901, has been adopted by the Milwaukee city Board of Estimate.

Under the program, work projected for 1943 will include:

A construction program for the city school board totalling $252,610; sewer improvement, extension, etc., $893,000.

Army reveals airborne engineer unit

A new weapon of the Army's engineer forces, first brought into use in the current campaign in North Africa, was revealed recently by Brig. Gen. Stuart C. Godfrey.

General Godfrey said that when it became necessary to establish advance airdromes to support the action in Tunisia, airborne engineer troops were used. With their equipment, they were flown in cargo planes to points as close as possible to the selected site. Within three days Flying Fortresses were taking off from the first base, and a second base was completed the next day.

Among the equipment especially designed for transportation in planes or gliders are lightweight, portable hangars; a gasoline operated lighting unit for night construction work; a road scraper that can be hauled by a jeep, and rollers to be filled with water or sand.

General Godfrey said the airborne aviation engineers were first organized last summer and were trained so rapidly that they were at work in England within six months after the training started.

"The idea is that these men can get into fields captured by paratroops or uninvaded islands, right with the attack units and make ready for air operations with a minimum of delay," General Godfrey said. "The saving of a few hours or days in the construction of such airdromes may have a great bearing on the outcome of a whole campaign."

The airborne aviation engineers are chosen from the Air Force personnel for their stamina and special skills. They must have both basic combat and engineering training and then are instructed in operation of their specialized equipment. Additionally, they are given special engineering courses, advance training with such weapons as submachine guns, carbines and rifles, and a course in commando exercises.

MEN AT WORK on the ALCAN HIGHWAY

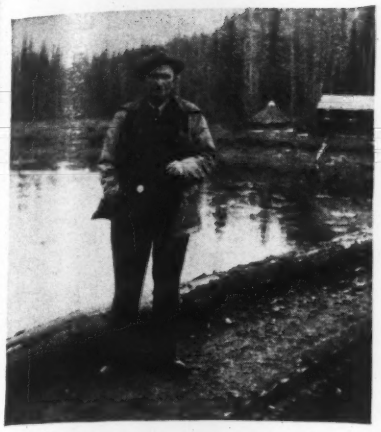
Above: Halfway to Tokio stand five army officers at the Watson Lake sign post. They are: MAJ. M. E. ERDOFY, 95th Engineers; LT. M. M. MELELICH, 35th; COL. R. D. INGALLS, commander of the Alcan South sector; MAJ. J. A. McCARTY and MAJ. P. H. SYMBOL, of the 35th. The sign shows accurate distances.

Above: Winter dress is eminently in order as COL. F. M. S. JOHNSON (left), who commanded the 93rd Regiment until late fall, confers with his former aide, MAJ. O. C. AUSTIN. Col. Johnson was enroute north to assume command of the 18th Engineers when the photo was taken by H. W. Richardson of ENR's staff.

Above: COL. E. G. PAULES, commander of the Alcan north sector. He built part of the road early in the season as commander of the 18th Engineers regiment.

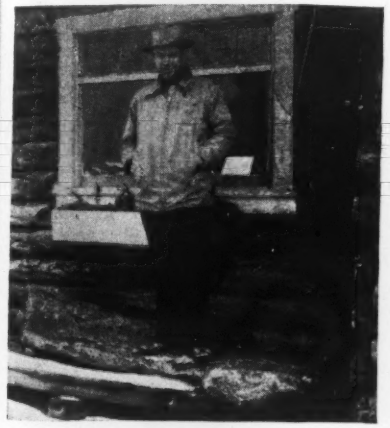
Above: FRANK E. ANDREWS (left), construction engineer for the Public Roads Administration of the Federal Works Agency, and LOU J. DOWELL, managing contractor, were among those heading the civilian roadbuilders working on the highway in the Yukon area throughout initial construction stages.

Above: In charge of the Dawson Creek railhead, where equipment and supplies are transferred from rail to truck, is COL. H. L. TWICHELL, formerly of the 95th Engineers.



Above: Bridge builder P. M. (PETE) PEDERSEN of Montevideo, Minn., stands on a temporary crossing of the Sikanni Chief River where he supervises a replacement job.

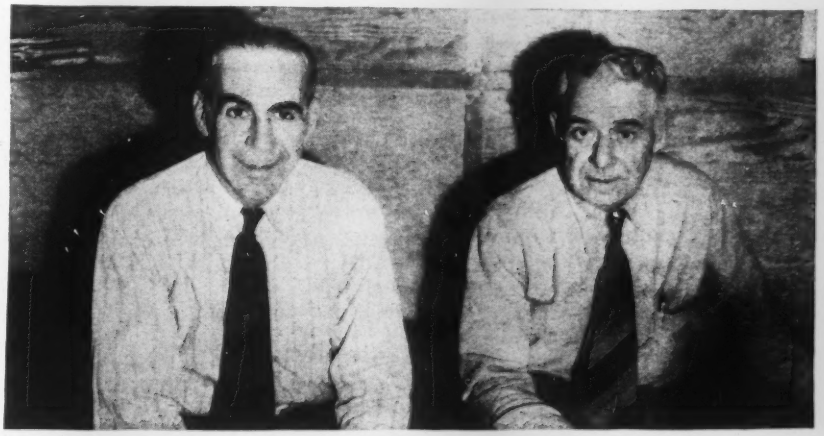
Above: O. W. CROWLEY, project manager, and C. C. COYKENDALL, field engineer, for Lytle & Green, managing contractors on part of the "Glory Road", meet at their Gulkana, Alaska, headquarters to talk about home in Iowa, as well as problems of the job itself. This discussion broke up into the one below.



Above: J. LEO HOAK, one of the Iowa contractors on the job, stands on a 2,300-lb. nugget of native copper in front of this Gulkana headquarters on the Copper River.

Above: All work and no play —. So here's play, a game of pitch, engrossing (left to right) HILDING EKDAHL, Cumberland, Ia.; VERNE LUNDEEN, Montezuma, Ia.; L. M. HUGGINS, PRA; C. C. COYKENDALL, and O. W. CROWLEY who have left their discussion above. That's Crowley raking in the chips. Such moments of relaxation are rare enough on this job.

Above: Behind all that bush of whiskers is K. A. JOHNSEN, engineer for the PRA in the Yukon area. Such hirsute adornment is said to be cool in summer too.



Above: BILL BATES project manager for Okes Construction Co., St. Paul, Minn., (left), is caught in a jovial mood as he compares notes with his boss, DAY OKES. The Okes organization is managing contractor on the south end of the 1800-mile "Glory Road" to the nation's northernmost possession.

MEN AND JOBS

Paul D. Cook, county sanitary engineer for Lake County, Ohio, has been appointed a lieutenant in the Civil Engineer Corps of the U. S. Navy, and has reported for service at Norfolk, Va. **Harold A. Fitch,** at present chief assistant to Mr. Cook, will take over the duties of the office during his superior's absence.

William W. Aultman, water purification engineer for the Los Angeles water district, has been commissioned a lieutenant in the Naval Reserve Construction Battalion, assigned in Norfolk, Va., for preliminary training.

Ralph Dudley, a former surveyor of Kinston, N. C., has enlisted in the Marine Corps and holds the rank of sergeant.

Newton F. Hicks, formerly assistant office engineer for the WPA at Lincoln, Neb., is now a member of the engineering department of the Douglas Aircraft Corp. at El Secundo, Calif.

Joseph D. Thompson, of Towson, Md., recently was appointed roads engineer for Baltimore County, succeeding **Herman F. Myer** who resigned from the post recently.

Lieut. William L. Harper, former engineer for the Department of Agriculture's Soil Conservation Service, is a member of the post engineers staff at Camp Butner, N. C.

Robert Bremhorst, an engineering graduate of Iowa State College in 1942, has been commissioned a lieutenant in the U. S. Army stationed at Wright Field, Dayton, Ohio.

Carlton R. Mueller has been employed by the U. S. Engineer office at Davenport, Iowa.

H. B. Bursley, of Charlotte, N. C., has been retained as engineer for the Asheboro Planning Commission, recently organized to plan the widening of existing streets in the city. **L. E. Whitefield,** of Asheboro, division engineer for the North Carolina Highway and Public Works Commission, has been named a member of the planning body.

John G. Schaub, assistant chief engineer of the Michigan State Highway Department, has been appointed deputy commissioner-business manager, succeeding **Lloyd B. Reid,** the new commissioner. Mr. Schaub entered the department in 1934 as assistant road construction engineer, and has held the post of assistant road engineer, assistant to the deputy commissioner, engineer in charge of construction and operations, and assistant chief engineer.

Edward M. Carter, veteran Trenton, N. J., assistant city engineer of streets, has been promoted to the post of engineer of streets. **Edward L. Mount, Jr.,** has been advanced from senior civil engineer to assistant street engineer, to fill Mr. Carter's former post.

D. M. Pelton, of Portland, Ore., now a member of the Corps of Engineers serving in Alaska, has been promoted to captain from first lieutenant.

Frank N. Barker, head of the Illinois state highway research bureau, has been appointed executive secretary of the Illinois State Highway Traffic Advisory Committee.

Walter R. Turbeville, for the past several years assistant bridge engineer for the South Carolina Highway Department, recently was granted a leave of absence to enter the Corps of Engineers.

D. C. Murrow, of Asheville, N. C., has joined the engineering staff of the U. S. Geological Survey at Asheville as hydrographic field assistant.

J. C. Carson, district manager for Iowa-Nebraska Light and Power Co., at Maryville, Mo., recently was commissioned a captain in the Corps of Engineers.

Lewis L. Gwin, Blair County, Pa., engineer, has resigned his post to enter the armed services.

R. W. McColough of Halifax, N. S., formerly deputy highway minister, has recently been named director of construction, Department of Munitions and Supply, at Ottawa.

L. W. Grace, of St. Peter, Minn., has resumed his duties as county engineer of Nicollet County, after an eight months leave of absence.

Foster K. Preston, formerly assistant district engineer at Mason City for the Iowa state highway department, has recently been promoted to captain in the Corps of Engineers.

Charles A. Grennan, of Hollis, L. I., executive officer of the 303rd Engineers at Camp Butner, N. C., has been promoted to the rank of major.

Howard G. Harvey, formerly of Virginia, Minn., has become principal engineer with the operations branch of the Missouri River Division, U. S. Engineers, at Omaha, Neb.

L. W. Veigel, city engineer of Dickinson, N. D., since 1933, has entered army service as a sanitary engineer.

Arthur V. Deal, of Lexington, Va., has been promoted to the rank of lieutenant-colonel in the 78th Division at Camp Butner, N. C.

H. R. Gesler has been named city engineer of Watertown, S. D., succeeding **Ralph Reed** who left that post last spring.

Robert Guy Cannon, who has been an engineer with the Duke Power Co. at Hickory, N. C., for several years, has reported for service at Norfolk, Va., with the "Seabees," construction battalion of the Navy.

N. M. Nygard, of Bemidji, Minn., has been appointed county engineer of Lake of the Woods County during a leave of absence granted recently to **John Gjelhaug,** now engaged in research government service.

Maj. Stewart A. Marshall, Jr., who as area engineer has directed the housing program for the expansion of a military post at Columbia, S. C., has been promoted to the rank of lieutenant-colonel.

Bert N. Paxton of Oroville, Cal., has been appointed road engineer for Butte County, Cal.

Thomas Montgomery, who supervised construction of many oil refineries in Canada during his 46 years as chief engineer of the Imperial Oil Co., retired recently.

Enoch R. Needles of the consulting engineering firm of Howard, Needles, Tammen and Bergendoff, has been commissioned a lieutenant-colonel in the Corps of Engineers. At present, he is assigned to the office of the Chief of Engineers at Washington, D. C., where a part of his duties will relate to Corps of Engineers activities in connection with the War Production Board's Controlled Materials Plan.

O. H. Lowery, an inspector for the Corps of Engineers on construction of a hospital near Clinton, Iowa, has been named to the agricultural engineering staff of Iowa State College, replacing **R. K. Frevert,** who joined the armed forces in November.

Joseph A. McConomy, chief engineer and superintendent of buildings for the city of Montreal, Canada, has retired from his post and has been succeeded by **Joseph Desrochers.**

First WMC construction employment office

The first United States employment service office to be set up for the hiring of construction workers only, in cooperation with recent War Manpower Commission expansion plans, will be opened in Louisville, Ky., shortly.

Walter F. Hayes, 44, former office manager for U.S.E.S. at Hazard, Harlan, and Newport, will have charge of the new construction employment office, which will handle the placement of construction workers on jobs in Jefferson county, Ky. Clark and Floyd counties, in Indiana, and in Fort Knox, Ky.

Mora Helm, manager of the Louisville U.S.E.S. office, said that an agreement has been reached between WMC, U.S.E.S. and the Louisville building trades unions, to set up the office for centralized control of hiring for construction work. Until recently, construction workers have been registered and referred through the U.S.E.S. office, but all records on workmen in this category will be transferred to the new office.

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Pittsburgh plans work for postwar period

A nine-point program of postwar reconstruction work has been submitted to the Pittsburgh, Pa., City Council for consideration, it was announced recently.

W. H. Buente, engineer for the commission, said the program includes relocation of Routes 22 and 30 so that through traffic will by-pass the city; mapping of urban areas that need redevelopment in the nature of new or revised street lines, sewer lines and utility services, and drawing of a new zoning map aimed at proper land use.

Mr. Buente said the work should start within a year after the war's end, and may stretch out over a ten-year period.

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Auto traffic moves over Pit River bridge

Auto traffic began moving January 8 across the Pit River bridge for the first time, the California state department of public works reported.

The bridge, highest double-decker span in the world (*ENR*, Feb. 5, 1942, p. 223), spans the Pit river above the site of Shasta dam. The upper deck, carrying a four lane section of Highway 99, is 500 ft. above the present river level. The lower deck, which carries the Southern Pacific Railroad across the river, was opened to rail traffic March 15, 1942.

Connecticut retains Cox as highway commissioner

Governor Raymond E. Baldwin has reappointed William J. Cox as Connecticut Commissioner of Highways for a second four-year term, to begin July 1, 1943.

Mr. Cox was originally appointed commissioner by Governor Wilbur Cross, to succeed the late John A. Macdonald. The commissioner was reappointed in 1939, but since the state senate did not confirm the appointment, he was given a recess appointment. Governor Robert A. Hurley reappointed Mr. Cox two years ago to fill out his own unexpired term.

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ASA elects leaders, reviews year's work

The American Standards Association, like many another business organization, has set a new production record for 1942, R. E. Zimmerman, president, reported at a recent annual meeting held in New York.

Mr. Zimmerman, vice president of the U. S. Steel Corp., was elected to serve a third term as ASA president. Other officers elected included George S. Case, chairman of the board of Lamson & Sessons Co., vice president; H. S. Osborne, of the American Telephone & Telegraph Co., re-elected chairman of the Standards Council; and E. C. Crittenden, of the National Bureau of Standards, elected vice chairman.

In his annual report Mr. Zimmerman said that in the past 12 months the association has produced 73 new standards and 49 revisions of existing standards in cooperation with civilian and military war agencies.

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Indiana plans huge postwar road program

Plans for a $160,861,000 postwar road and bridge construction program that will embrace a mileage equal to nearly half the present state highway system were announced recently by Samuel C. Hadden, chairman of the Indiana State Highway Commission.

The program, presented in a report to the state legislature, will require an estimated ten years to complete. Present rough plans call for $126,704 worth of road construction, and $34,157 in bridge repair and construction.

One of the largest projects involved will be the completion of a belt road around Indianapolis. About 49 miles of the proposed 60 mile belt route remain to be completed at a probable cost of about $2,450,000.

Bamboo cane used as concrete reinforcing

Concrete beams reinforced with ordinary bamboo cane are being produced in experiments under way at Clemson College, Clemson, S. C., according to Prof. Howard E. Glenn, directing the experiments.

First test run showed bamboo-reinforced beams withstood a tensile load resistance of 20,000 pounds per sq.in. The tensile strength of steel reinforced beams is about 70,000 lb.

"Further experimentation to determine the proper amount of bamboo to use, and exactly where to place it, may produce a beam as strong as one reinforced with steel," Professor Glenn said.

Kahn organization elects new roster of officers

Louis Kahn, for many years secretary-treasurer and executive head of the Albert Kahn Associated Architects and Engineers, Inc., has been elected president of the organization, succeeding his brother, the late Albert Kahn.

Albert Kahn died Dec. 8, 1942, and it was announced recently that the organization will carry on, largely because of Mr. Kahn's own foresight in designing the organizational set-up (*ENR*, Dec. 17, 1942, p. 833).

Other officers elected at a meeting of the board of directors includes: Sheldon Marston, George H. Miehls and Robert E. Linton, vice presidents, and George K. Scrymgeour, secretary, and Saul Saulson treasurer. All of the new officers have been executives of the firm for many years.

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U. S. sets Shasta land condemnation price

Land condemned by the federal government for railroad relocation work at Shasta Dam is to be paid for at the value it had before the initiation of the Shasta project, rather than at the greater value created by the dam's construction.

The U. S. Supreme Court, in a ruling last week in the case of U. S. vs. Victor N. Miller, based its decision on the principle that where, from the initiation of a project, it is clear that a particular piece of land is likely to be taken, the pre-project value governs, even though the actual taking of the land is delayed for some time.

Approve postwar building of $12,000,000 bridge

A $40,000,000 postwar program that includes construction of a bridge across Baltimore (Md.) Harbor and conversion of one of Baltimore's main thoroughfares to an express highway has been approved by the Public Roads Administration, Maryland city and state officials said last week.

The bridge, over the Patapsco River between Fairfield and Canton, Md.,—along with the depression of Franklin Street to provide easy by-passing of the city's main business district—will be part of the Atlantic States Superhighway—a project long planned for joint participation by the federal government and by states to be traversed.

Thomas H. MacDonald, head of PRA, disclosed after conference with Ezra B. Whitman, Maryland road commission chairman, that the federal government plans construction of a broad parkway from Washington to Camp Meade, Md., including a new bridge over the Potomac River to carry traffic into the capital. This road will also serve as a superhighway link, ending about 17 miles south of the south end of the proposed bridge.

The new bridge to cost an estimated $12,000,000, will be a mile long, and its central span would clear the river channel by from 90 to 135 feet, depending on detailed design and study of problems involved. At its north end, the bridge will join the converted Franklin street, which will be made into an eight-lane highway to carry traffic through the city to intersections with northbound main roads beyond city limits.

Mr. Whitman said the state has $300,000 available for preliminary engineering and planning work on the project. Mayor Jackson of Baltimore said the Municipal Commission on City Plan would proceed immediately on plans for the Franklin street work.

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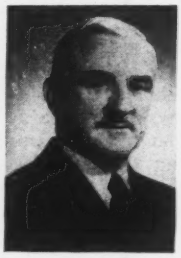
Seek films as record of sewage, waterworks jobs

A continuing record of all available waterworks and sewage works motion picture films is being maintained at the headquarters office of the Water and Sewage Works Manufacturers Association, Inc., at 22 E. 40th St., New York, N. Y.

In order to add to its library the organization has asked its member companies to report any descriptive films in their possession or known to be available, so that other members may be advised as to where such motion pictures are obtainable.

Name two to engineering firm vice-presidencies

W. G. Paton of Cleveland, Ohio and W. R. Engstrom of Seattle, Wash., have been named vice-presidents of the Austin Company, George A. Bryant, president and general manager, said last week.



W. G. Paton

Mr. Paton, a native of Glasgow, Scotland, and a graduate of the Royal Technical Colleg of Scotland, joined the Austin organization in 1919 as a structural engineer. He became assistant to the general manager in 1938, and has served in that capacity since. In addition to his duties as vice-president, Mr. Paton will assume the posts of assistant secretary and assistant treasurer of the organization.

W. R. Engstrom

Mr. Engstrom was born in Perrebonne, Minn., and is a civil engineering graduate of the University of Washington. He joined Austin as a field engineer in 1925, and later became Seattle district manager—in 1933. In mid-1940, Mr. Engstrom was given additional responsibilities as general project manager of the U. S. Naval Air Station and Naval Supply Depot construction, and related Navy construction in the Pacific Northwest.

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See wood fireproofing industry development

Development of a national wood fireproofing industry has been foreseen as a result of recent moves by the government to replace steel and make large quantities of fire-resistant lumber available for the safeguarding of war construction.

Spurred by the war program and helped by the establishment of federal specifications for fire retardant chemicals and processes, the capacity of the wood-preserving industry to produce fire resistant lumber has been stepped up to an estimated 250,000,000 board feet annually, according to the American Lumber & Treating Co.

According to J. F. Linthicum, president of the company, federal specifications offer a sound basis on which the nation's wood-preserving industry can bring fireproof lumber out of the laboratory and into wide commercial application. Fireproofing agents outlined by the federal specifications are chiefly compounds of ammonium and boron. These compounds do not give off toxic fumes during fire exposure, do not affect strength and color of wood, are non-corrosive to metal fastenings, and have no serious effect on paint and glue.

Immediate construction industry uses seen for the material include scaffolding and concrete form lumber. It is predicted, however, that fireproofed decking and stringers for short-span, standard loading highway bridges may come into extensive use, among other future uses.

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Civil Service seeks to fill engineer posts

Education and experience requirements for engineers have been lowered to meet the increasing need for filling engineering positions, the United States Civil Service Commission said recently.

For the grades of engineer through chief engineer, applicants now must have either successfully completed a full four year course leading to a bachelor's degree in engineering in a college or university of recognized standing, or must show professional engineering experience providing a substantial equivalent of such a course, in addition to the required experience. One year of professional engineering experience, or of engineering graduate study, is required for assistant engineer, and for higher positions applicants must show additional experience of a progressively higher level.

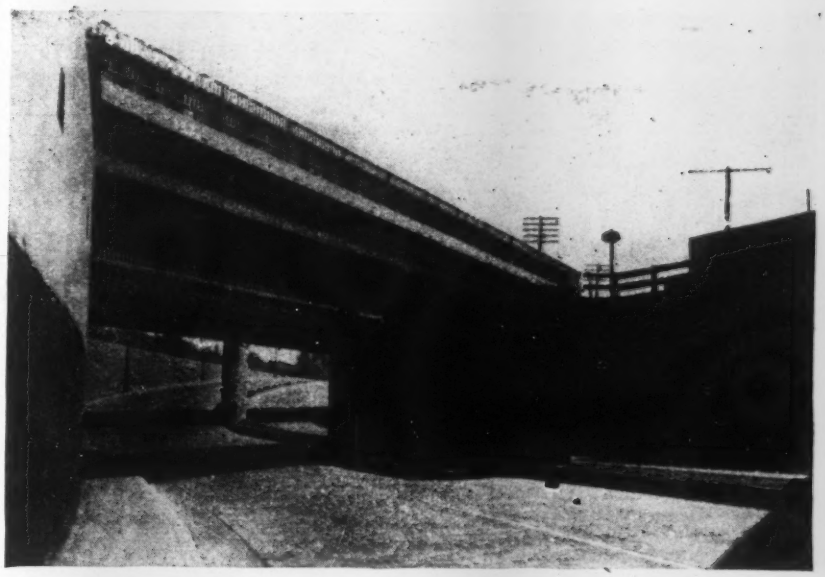
Most of the positions now available are in the grades paying $3,800, $3,200, and $2,600 a year, and only a few positions will be filled at higher salaries, the Commission said. Applications will be accepted until further notice, but qualified persons are urged to apply immediately. No written tests will be given, and applicants will be rated on the basis of their statements in the application, subject to verification by the Commission. Applications will be rated as soon as possible after their receipt at the U. S. Civil Service Commission office, Washington, D. C.

VICTORY gardens were encouraged by the Los Angeles water department last spring with the announcement of a special water rate to all householders who wished to irrigate such plots (*ENR*, April 9, 1942, p. 527). A recent check-up shows that during 1942 some 17,000 residents qualified for this special rate, saving a total of $51,000 that was applied as credit to their regular water bills.

Grade separation speeds up traffic at California defense plant

TRAFFIC JAMS that were very serious when shifts changed in a large California industrial plant have been eliminated by a recently completed project that substitutes an underpass for a grade crossing where dangers and delays had been rapidly increasing due to expansion of the plant. The project, whose cost including right-of-way was $500,000, eliminates the last remaining grade crossing of a main-line railroad for a distance of some 200 mi. along one of the state's principal highway routes.

The project included construction of a depressed roadway for the main highway route, over which the railroad passes on a plate-girder bridge and two streets parallel to the railroad cross on box girder concrete bridges. There are also three pedestrian subways, a storm drain system and four pumping plants, plus the usual sidewalk and utility construction requirements.



Two highways and a railway line are freed of crossing traffic at grade by the new underpass. Here shown is the railway bridge, in the foreground, with one highway crossing in the distance. The other highway crossing is located a short distance to the right of the railway bridge as shown in the drawing below.

Extent of Project

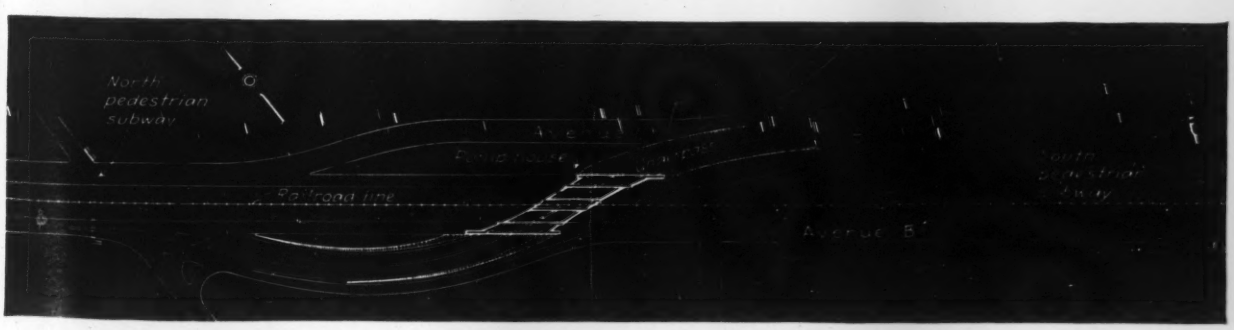
The project extends some 3,500 ft. in the direction of the main traffic flow. Traffic islands and central dividing strips are features of the main highway route which widens to 84 ft. between curbs at what otherwise would be the bottleneck for traffic flow. The underpass has two traffic lanes in each direction with a 6-ft. dividing strip. Local traffic which moves at grade parallel to the railroad is very heavy. It now is freed of crossing traffic.

The railroad bridge is a through plate girder with two spans of the continuous type. A 4-in. reinforced concrete bin-type deck rests on conventional wide-flange floor beams; the track is carried on 8 in. of rock ballast and the deck is waterproofed with asphaltic membrane protected by 1½ in. of plant-mix surfacing. Abutments across the railroad right-of-way are wide enough for and were designed to accommodate a superstructure carrying four additional tracks; the center pier is wide enough for one additional track, which is to be laid soon. Each concrete highway bridge, a two-span continuous box girder, carries a 26-ft. roadway and two 1-ft. 9-in. sidewalks with the California standard concrete handrail.

For draining the underpass, two 1,000 g.p.m. automatic pumps were put in a wet well with motors in a concrete house above street level. In addition to the usual catch basins and connecting pipes, an elaborate system of perforated metal pipe drains lead seepage water to the sump from behind the slope paving and from under the pavement itself.

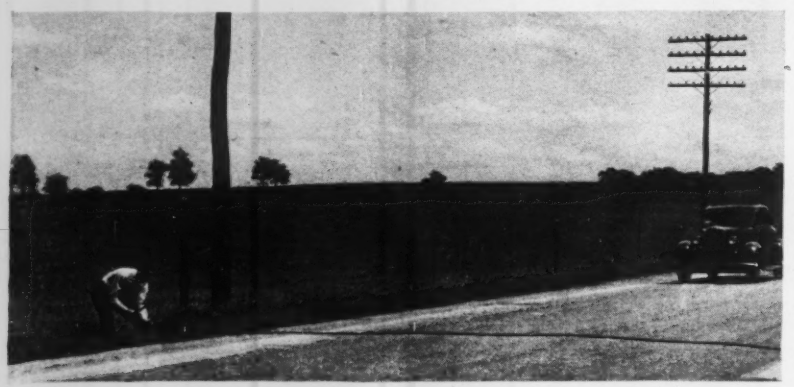
Three reinforced concrete pedestrian subways, each with drainage pumps, take care of heavy industrial foot traffic that formerly was seriously delayed by having to cross the heavy rush-hour traffic at grade.

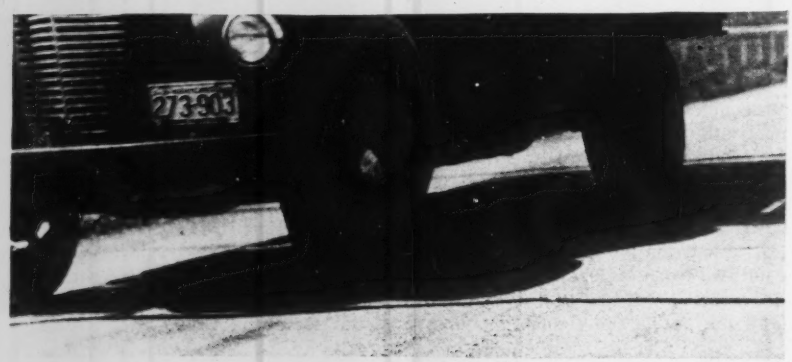
The California Division of Highways designs drew up all designs and its engineers supervised construction, which was done under a contract as a federal grade separaton project.

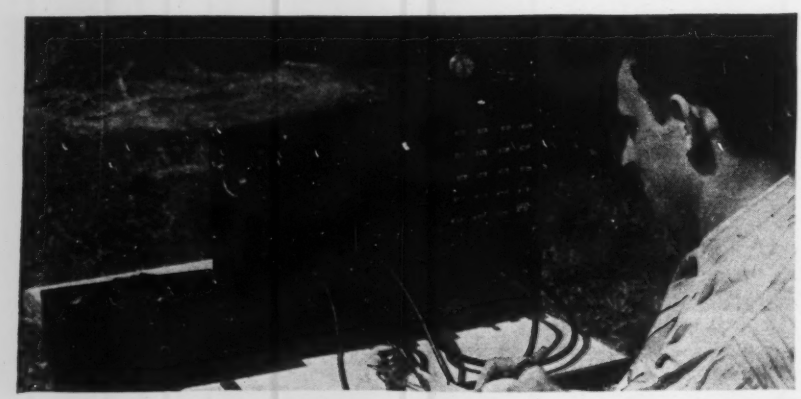


Delays and dangers at a grade crossing near a large industrial plant were removed by this simple underpass layout, which includes the triple bridges shown here

Road check measures gas rationing effect







In order to determine the effect of gasoline rationing on automobile traffic and to observe the extent to which the wartime speed limit of 35 miles per hour is being observed, the Public Roads Administration of the Federal Works Agency and cooperating state highway departments have been conducting sample counts of the volume and speed of traffic passing over typical stretches of highway.

Quoted in the form of monthly resumes, these figures have been used by many highway agencies as a basis for estimating total effect of rationing, and for at least a partial picture of what may be ahead (*ENR*, Dec. 17, p. 828 and previous).

The method and accuracy of obtaining these figures has become, therefore, of concern to many governmental officials, and especially to highway engineers. In the accompanying series of photographs, PRA shows how the job is done.

1. First consideration is the selection of a site—the one shown here being nearly ideal, since it contains no steep grades, is straight, has no intersecting roads or other conditions that might impose restrictions on normal traffic flow.

2. Three rubber tubes are then laid across the roadway, eight feet apart. An obstruction placed in the center of each tube, plus a pneumatically operated switch connected to each end of each tube, enable the observer to measure the speed of each vehicle, travelling in either direction. Contact of wheels with the first tube sets off the measuring apparatus, while the second acts as a counter and the third stops the mechanism. Elapsed time between contact with the first and third tubes gives speed.

3. A close-up shows operation of the mechanism. The truck's front wheels are about to contact the third tube stretched over the roadway.

4. Last step in obtaining the check is shown here, with an observer recording results after a car has passed. The box at left contains an automatic recorder to record total number of vehicles passing the point; the middle box contains speedometer mechanism actuated when a car's front wheels cross the first tube, and the large box at right records the total number of vehicles travelling in each of 20 speed groups. This box also contains all visible recording devices for reading by the observer. The whole unit is powered by storage batteries and dry cells, not visible in this photo.

BRIEF NEWS

NORTH CAROLINA industrial firms gave 21,053,307 pounds of cast-off materials to the nation's scrap drive during the monthly period ending Dec. 20, according to W. M. Parsley, industrial salvage manager for the War Production Board at Charlotte.

MAJOR highway projects now under way in various parts of Quebec (Canada) province will continue throughout the winter, officials have announced. Most of these jobs consist of levelling, strengthening and gravelling, building culverts and retaining walls and similar work.

TWENTY-SIX miles of street car tracks, weighing about 800 tons, will be donated to the national scrap drive as soon as necessary contracts can be awarded for their removal from the streets of Baton Rouge, La. Also to be contributed to the scrap pile will be large funnel shaped iron markers that have stood on each corner since 1900. These markers were placed shortly after the streets were paved to keep horse-drawn vehicles from mounting over curbing.

THE Brown Shipbuilding Co. of Houston, Tex., recently was awarded the Army-Navy "E" for high production on navy ships. This organization, as Brown & Root, Inc., and sometimes associated with MacKenzie Construction Co., have built many major structures, including Marshall Ford Dam.

IMMEDIATE construction of 594 new housing units will be permitted in Memphis, Tenn., under authority of the National Housing Agency. Of the total, 133 will be allocated for negro housing.

ATTORNEY GENERAL Harry McMullan of North Carolina has ruled that under the contractors licensing law, only licensed general contractors may bid on contracts for amounts of $10,000 or more, and that municipal authorities are not permitted to accept bids from unlicensed contractors.

AN INTERIM committee studying motor transportation for the Oregon state legislature has advised the governor's office that it has been unable to complete its task, and asked for additional time to complete the work. The committee was appointed by the legislature two years ago.

HOUSING must be provided for from 10,000 to 15,000 more war workers in the Bridgeport, Conn., area alone during 1943, city officials said after a recent survey.

WPB survey finds many idle machines

The War Production Board's census of used construction equipment is now about 70 percent complete, with some 270,000 pieces of equipment listed. Of these the surprising total of 100,000 items has been found to be idle including many of the critical types such as tractors, shovels, and cranes.

Actually, this number is increasing as the volume of construction work falls off. Apparently, the construction industry scraped over its August peak without running into a crippling equipment shortage.

There is still a pressing demand for equipment. Manufacture of critical types this year will actually exceed the amount produced last year, though production of some types, such as pavers and mixers, is scheduled to be rather deeply cut. But the demand is not coming from the domestic construction industry. Practically all of the new equipment is going directly into the hands of the Army and Navy for overseas construction work by troops.

In addition there is a large demand for used equipment for overseas service and for the lumber industry in this country. To meet this demand, WPB is putting heavy pressure on owners of idle equipment to sell it. Most owners are willing to rent their machines, but there is considerable difficulty in getting them to sell it. A contractor who has not much work underway hesitates to dispose of the tools of his trade.

So far, the WPB has not resorted to requisitioning to get out the machinery, though in some cases it has used the threat of requisitioning. The construction equipment division hesitates to use drastic measures, but the possibility can't be ruled out.

CHAIRMAN Earl Carter, of the Chattanooga, Tenn., Chamber of Commerce waterways committee, said recently he had been informed that a recent WPB order stopping work on four Tennessee River terminals had been rescinded. He said that plans for the terminals had been revised to eliminate use of much critical materials and that work would be resumed immediately.

A LABOR shortage in the Southwest has reached such a critical stage, according to officials in Oklahoma, that Army engineers have asked the state of Oklahoma for the use of 300 prisoners to work on the Denison, Tex., dam project. Governor Leon Phillips of Oklahoma said the Army had proposed that the state contract for the use of the prisoners on the project, but expressed doubt that such a contract could be legally made.

AUTHORITY to employ 40 guards for the patrol of the reservoirs and other sections of the city water system of Portland, Ore., has been granted by the city council.

THE REMOVAL of 500,000 posters and billboards from alongside Pennsylvania state highways has been accomplished during the past four years, according to State Secretary of Highways Hughes.

SAN FRANCISCO'S old Corral Hollow pipeline in the Livermore Hills, part of the original Hetch Hetchy project, will be dug up soon and sold for scrap. W. C. Hubner, city purchaser, said he will advertise for bids on purchase of the pipeline and all its equipment. Long unused, the pipe contains 48,000 ft. of 40-in. steel pipe, numerous pumps, motors and other machinery, and copper wire.

California architectural bureau tells year's work

The California State Division of Architecture has reported the completion of architectural and engineering work totaling $6,400,000 during the calendar year 1942, in spite of severe restrictions and the curtailment of construction materials and manpower.

Of the total, about $4,000,000 worth of work was completed in the construction field, while the balance represents completed drawings for work projects that must be deferred because of the war emergencies. The total represents a widely diversified field of activities, ranging from minor work to major capital outlay projects. Included in the latter category are such projects as the construction of a shore base for the California Maritime Academy at Morrow Cove, a flood control project at Camarillo State Hospital, tubercular hospital units at the Napa State Hospital, and a hangar and airfield in Burbank for the California National Guard.

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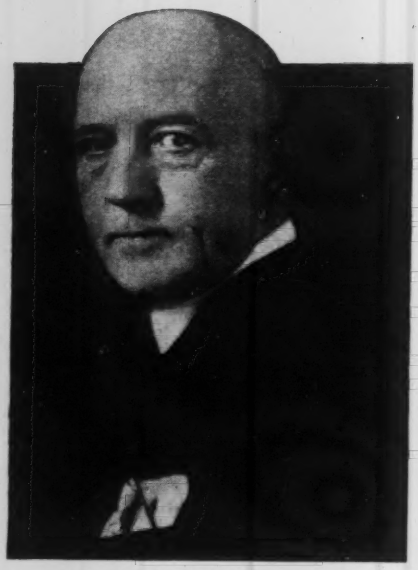
Chicago Sanitary District slashes 1943 budget

A tentative 1943 budget, presented recently by the Chicago Sanitary District at a public hearing, showed a decrease of $8,209,000 in appropriations under 1942.

The slash is due entirely to the necessity for restricting the district's building program during the war. A construction appropriation of $15,104,499 in 1942 was compared to $7,650,039 for 1943.

Total appropriations are $40,115,915, as compared with $48,325,723 in 1942.



H. W. Hudson dies, built many New York bridges

Col. Harold W. Hudson, 67, who was chief construction engineer for the Triborough and Hell Gate bridges in New York City, died Jan. 15 in New York City.

A native of Pittsburgh, Colonel Hudson was a civil engineering graduate of the University of Minnesota, and engaged for several years in railroad location surveys and construction in Colorado and other parts of the West. In 1903 he became associated with the engineering department of the Pennsylvania Railroad, and was assigned to work on passenger terminal facilities on Long Island during construction of the railroad entrance into New York.

Later he was in charge of construction of the Hell Gate arch bridge and approaches for the New York Connecting Railroad.

Holding the rank of captain in the Engineer Reserve Corps, he entered active military service in April, 1917, becoming chief engineer of the Transportation Corps on the staff of the Director-General of Transportation of the A.E.F., with the rank of lieutenant-colonel. He returned to New York in 1919 with his original unit, the Eleventh Engineers.

After the war, he was engaged in consulting work for several years and in 1926 took charge of the electrification of the Bay Ridge division of the Long Island Railroad.

He joined the New Jersey State Highway Department in construction of the Pulaski Skyway and Express Highway extending westward from the Holland Tunnel in Jersey City, and when this highway was opened to traffic in 1932, Col. Hudson became assistant state highway engineer, remaining in that capacity until 1934, when he joined Madigan & Hyland to direct construction of the Triborough bridge and connections in New York City. Since that time he was in charge of construction of the Bronx-Whitestone bridge and connections for the Triborough Bridge Authority, for Madigan-Hyland.

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Postwar house for $1,500 is envisioned

Predicting the availability of a postwar house with two bedrooms that will cost only $1,500 to $1,800, F. Vaux Wilson, vice president of the Homosote Co., told business paper editors last week that this development would help to satisfy a potential market demand for 1,600,000 homes after the war.

His comments were made at a New York showing of a color movie of the construction of 5,000 houses in less than five months for shipyard workers. Barrett & Hilp, of San Francisco, the contractors, used the "precision-built" system of prefabrication developed by the Homosote Co. (*ENR* Aug. 13, 1942, p. 212). Inquiries concerning the availability of the picture should be made to the Homosote Co., Trenton, N. J.

"Prefabrication," said Mr. Wilson, "is a misnomer." He suggested the term "engineered housing" and pointed out that it has been found fundamentally sound to apply engineering techniques to mass production in housing. Such an approach to meeting housing demands is necessary, if low cost is to be achieved, because a single house contains as many as 30,000 parts.

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Bankers foresee postwar housebuilding boom

Many bankers active in the home mortgage field foresee a boom in privately-financed home construction during the postwar period—a sharp revival that will do much to cushion the transition from wartime to peacetime economy.

According to the current issue of the *Insured Mortgage Portfolio*, official publication of the Federal Public Housing Authority, financial authorities look to the need for rehabilitation of blighted areas, deterioration or loss of population in war-industry housing centers, current restrictions on construction and repair work, and other factors to provide the impetus for a major home building industry after peace is won.

Constant development of new materials and streamlined methods of producing all types of building materials under the forced requirements of wartime also are seen as factors that will provide bases for the expected boom.

Michigan shuts off traffic lights to save gasoline

The Michigan State Highway Department has shut off one quarter of its 856 traffic lights on trunkline highways in an effort to save gasoline for motorists, and has started a study preparatory to retiming the lights remaining in operation.

Lloyd B. Reid, state highway commissioner, said that studies by the department's war activities and planning and traffic divisions show that slower speeds and lower traffic volumes call for adjustment of traffic lights that were set up and operated for pre-war traffic. Reid also made public a letter sent to city, county, and road district officials asking similar action from them.

Additionally, the commissioner called for elimination of non-essential stop-signs and other hindrances to traffic.

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N.C. seeks priorities for special road work

Governor J. M. Broughton of North Carolina said last week he will assist in efforts to get high enough priority rating to interest contractors in a proposed three mile causeway across a marsh in Camden county, near Elizabeth City.

The project, which would replace a so-called "floating" road across the marsh—at present in need of repair—was one of the projects planned for 1942 that was stopped by the war emergency. Navy Department officials later certified the project as being essential, but the North Carolina highway department has never been able to get the priorities it desires.

The road constitutes the sole highway link between several eastern North Carolina counties and the rest of the state.

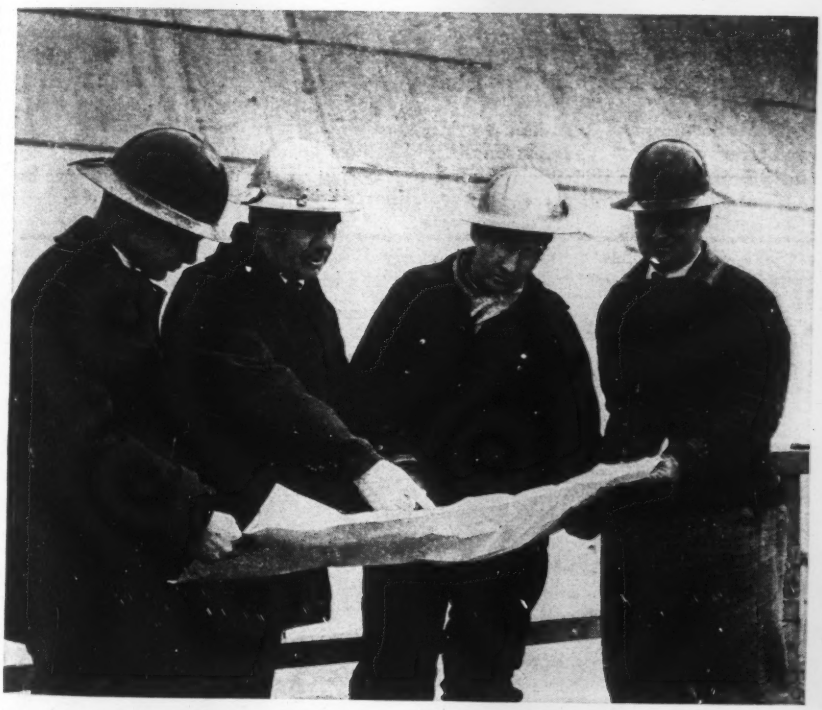
When bids were called on the project last year, only one contractor submitted a bid and that was rejected as being considerably above the figure that highway engineers had estimated the project would cost. The inability of contractors to obtain high priority ratings on materials is believed to be responsible for lack of interest.

A $422,252 project to enlarge both supply and distribution of Amarillo, Tex., waterworks has been approved by the Federal Works Agency. Of the total amount, $102,000 is a federal grant which will be used to build an overhead steel tank at some future date when materials are available. The remainder of the funds are available through a bond issue. Plans call for more than 6 mi. of 30-in. spun concrete pipe from a power plant within the city limits to a point southwest of the city.

Above: P. L. BROCKWAY, veteran city engineer of Wichita, Kan., critically surveys the Cleveland, O., skyline during a lull in the recent meeting there of the American Public Works Association.

Below: ROBERT FROST DAGGETT (left) is chief architect; ARTHUR H. BEARD (second from left) is in charge of the water department; ROSS J. BUCK (seated) is chief engineer and ARTHUR D. CASTER is in charge of sewage for Charles H. Hurd, architect-engineer at Camp Atterbury, Ind.

MEN AT WORK



Above: (left to right) THOMAS F. TAYLOR, construction engineer; LEE G. WARREN, project manager; J. S. LEWIS, JR., construction superintendent, and J. W. CLARKE, assistant construction engineer, pore over construction progress reports for the Tennessee Valley Authority's giant Douglas Dam. The huge structure is expected to be completed in the record-breaking time of about 13 months from start to closure, to create a lake storing more than 1,300,000 a.-f. of water.

Below: B. B. WEBER, city engineer of Oil City, Pennsylvania, pauses between sessions of the recent American Public Works Association meeting at Cleveland, Ohio, to pose for a photograph.

Reclamation, power take biggest cuts as WPB trims construction work

More than a billion dollars worth of work cut from 1943 building program as war agency continues its program; highways affected

Reclamation and power projects have taken the heaviest share of the cuts in the War Production Board's program of cutting down the volume of construction work (*ENR* Dec. 24, 1942, p. 879).

To date, projects with a total cost of $1,214,851,000 have been eliminated. This figure includes work done before the stop-orders were issued.

Of this amount, $348,413,000 was for power and power-irrigation projects. Other reclamation projects totalling $129,400,000 were also dropped.

The other big cut was the elimination of $413,000,000 in WPA projects (*ENR* Dec. 10, 1942, p. 809).

Highway jobs cut amounted to $104,969,000, airport work to $23,585,000. Army projects, most of them river and harbor work, costing $69,772,000 were dropped, as were $113,244,000 of Navy jobs.

WPB has also issued two lists breaking down its latest stop-orders into projects halted completely and those on which some work is to be permitted. The first list concerned stoppage of 19 airport projects located in 15 states and having a total cost of $9,433,239. Projects stopped included airports at Princeton, Me.; Hattiesburg, Miss.; Bendix, N. J.; Hightstown, N. J.; Twin Falls, Idaho; Tarpon Springs, Fla.; East Hampton, N. Y.; Longview and Uvalde, Texas; Parksley, Va.; and Whitefield, New Hampshire.

Airports on which some work was permitted to continue are: a $1,161,320 job at Easton, Md.; a $1,185,390 airport at Athol-Orange, Mass.; a $748,529 project at Hyannis, Mass.; the Allentown-Bethlehem (Pa.) airport, and the $560,000 Bradford-Kane (Pa.) airport. Work on these projects is permitted only to safeguard materials already incorporated and to insure safety and sanitation.

The projects halted were in addition to the 22 airport projects costing $14,151,817 on which similar action was taken last week. All were part of the program of the Civil Aeronautics Authority.

The second list, concerning numerous state highway department projects, was not broken down as to cost of work halted. It named 15 projects in as many states, ranging from relatively minor repair work to major construction of bridges and overpasses.

* * *

Connecticut considers freeing Thames bridge

With opening of the new New London-Groton highway toll bridge over the Thames River scheduled soon, Connecticut legislators last week were considering bills aimed to making the bridge toll-free.

Plans now call for a passenger car fee of 25 cents, and 50 cents and higher as fees for trucks, depending on size and tonnage. Funds realized from the tolls are to be applied against a $6,000,000 bond issue that provided funds for erection of the bridge. War workers in the New London area have objected to the proposed charge.

One of the measures submitted to the legislature proposes that outstanding bonds be retired from the state's general fund, instead of from toll proceeds.

New oil tanker breaks up at outfitting dock

The 16,500-ton tanker Schenectady, newly-delivered to the U. S. Maritime Commission and tied up at an outfitting dock at Swan Island shipyards, Oregon, suddenly split in the middle last week, and sank to the mud on the bottom of the Willamette River.

The ship, which was built in the record time of 115 days (*ENR*—Nov. 26, 1942, p. 744) had just completed its sea trials.

With two official investigations in progress—by the Federal Bureau of Investigation and the Maritime Commission—no official reason was given for the accident. However, it was reported that the break appeared suddenly through the center of the ship's plates, which separated three feet at the deck level. The break was not apparent at a welding seam or between plates, officials said.

Both stern and bow sank, but the center portion of the ship seems to have maintained the same level.

Numerous theories were advanced as the cause, including faulty steel, faulty loading or unloading of ballast tank, or a newly-created sandbar that might have been washed up by recent high water. Little credence was given to theories of sabotage. The ship was not loaded when the break occurred.

Shipyards officials said it might be possible to float the Schenectady to a drydock in her present condition. If not, the tanker may be cut in two, and the sections floated to drydock.

Design of the tanker was the same as that used on tankers for some years.

Nevada cuts road budget

Nevada's highway construction and maintenance program for the year 1943 may be confined solely to maintenance work, according to Robert A. Allen, state highway engineer.

His budget totals $780,844 for maintenance work in the various counties. A reserve fund of $53,204 was set aside for excess snow removal and flood damage and $65,951 for administrative maintenance.

U. S. Signal Corps Photo

Engineers build gunnery models

To familiarize gunners with the appearance of enemy equipment, engineer troops at Camp Claiborne, La., have turned their construction abilities to the building of model tanks like the one above, which is an exact replica of the Panzer Kraftwagen II, a German light tank that has played a prominent part in Nazi campaigns both in Europe and Africa.

The model is built of scrap wood and canvas, and is a full size facsimile built exactly to scale even down to armament and communications system.

Builders were members of the 496th Heavy Shop Company.

Mosquito extermination group to hold meeting

The thirtieth annual meeting of the New Jersey Mosquito Extermination Association will be held March 10, 11 and 12 at the Seaview Country Club, Absecon, N. J.

Officials of the group said that because of the current great expansion in mosquito work made necessary for the protection of military and war industrial personnel, it will not be possible to cover all of the current activities. Nevertheless, an attempt will be made to secure presentations that will be helpful in the solution of the immediate problems facing the mosquito control workers.

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Oregon flood damage set at $100,000

Henry F. Cabell, chairman of the Oregon Highway Commission, said last week that damage to the state's roads from recent floods (*ENR*, Jan. 7, p. 3) totals about $100,000.

Commenting on the floods, which were general over the western part of the state, Gov. Charles Sprague declared the damage was "the clinching argument" in favor of the Army Engineers' program for flood control in the Willamette Valley. "I have been assured that the Willamette Valley project is at the head of the list as one of the first postwar projects to be undertaken," the governor said.

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Mexico spends millions on highway work

Mexico pushed its highway construction works program in 1942 with an investment of about $17,000,000, highest in the republic's history, according to the Ministry of Communications and Public Works.

Nearly half of the total was spent for work on the western and southern sections of the Mexican branch of the Pan American Highway, and on a north-south road through Baja, Cal. Territory, from Tiajuana on the United States border to La Paz, capital of the territory's southern district.

GOVERNOR Leverett Saltonstall of Massachusetts has issued an executive order providing that the Metropolitan District Water Supply Commission may sell and deliver water, after making proper connections, to industrial plants and establishments engaged in operations vital to the war.

JOBS OF THE WEEK

HOUSING, Washington
Bergesen, Wick & Dahlgren, Tacoma, has been awarded contract at $1,077,200 by the Tacoma Housing Authority, Tacoma. Work includes housing units at Salishan Project, Pierce County. Lea, Pearson & Richards, Tacoma, are architects.

HOUSING, Washington
Vancouver Housing Authority, received low bid for housing units, from Waale-Camplan Co., $1,579,000. Stanton & Johnson, Portland, are architects.

HOUSING, Alabama
Industrial Company awarded contract for emergency housing, prefabricated type, Mobile County, to J. A. Jones Construction Co., Charlotte, N. C. Electrical work awarded to M. B. Foster, Panama City, Fla. Total cost is $3,000,000. Fred Clarks, Mobile, Ala., is architect. Federal agency will finance.

HOUSING, Virginia
Public Housing Authority, Washington, D. C., awarded contract to Fred J. Brotherton, Inc., Hackensack, N. J. at $2,868,900. Murphy & Locraft, Washington, D. C., are architects.

HOUSING, Texas
Federal Agency, awarded contract for the constructing of housing to J. A. Jones Construction Co., Charlotte, N. C. Estimated cost $1,800,000.
Owner: Maritime Commission, Washington, D. C.

HOUSING, Washington
Vancouver Housing Authority, Vancouver, awarded contract to Howard S. Wright & Associates, Seattle, $4,720,000. The bid is for constructing housing Clark County. A. E. Doyle & Associates, Portland, Ore. are architects.

HOUSING, Arkansas
Public Housing Authority, Fort Worth, Tex. will construct dormitory type apartment, at $1,200,000. Harmon Construction Co., Oklahoma City is contractor and Erhart & Eichenbaum, Little Rock, Ark. are engineers.

HOUSING, Maryland
Alley Dwelling Authority, Washington, D. C. received lowest bid from John A. Johnson Construction Corp., Washington, D. C. at $1,431,000. Skidmore, Owings & Merrill, New York, N. Y. are architects.

HOUSING, Georgia
Public Housing Authority, Atlanta, Ga., awarded contract for housing, to Mion Construction Co., Atlanta, Ga., $2,544,849. Abreu & Robeson, Atlanta, Ga., are architects.

HOUSING, Georgia
Housing Authority, City of Savannah, Georgia, awarded contract for housing to P. S. West Construction Co., Statesville, N. C. $1,644,000. Cletus W. Bergen & Associates, Savannah, Ga. are architects.

HOUSING, Washington
Mullen & Strand, Seattle, Wash., was lowest bidder permanent housing units, Snohomish County. Everett Housing Authority, Everett opened bids and low offer was $748,000.

IMPROVEMENTS, British Columbia
Department of National Defense for Air, Ottawa, Ont., improvements, including barracks, mess halls, hangars, to General Construction Co., Ltd., Vancouver, B. C., $950,000.

IMPROVEMENTS, Kansas
U. S. Engineers, Kansas City, Mo., improvements, contract to Johnson, Peterson, Busboom & Rauh, Salina, Kan., estimated cost $7,000,000. Burns & McDonnell, Kansas City, Mo., are engineers.

ROADS, Maryland
C. J. Langenfelder Son, Rosedale, Md. and Union Building & Construction Co., Passaic, N. J., have been awarded contract by U. S. Engineers, Washington, D. C. for road, Price Georges County. To exceed $1,000,000.

BUILDING, Texas
R. P. Farnsworth & Co., Inc., New Orleans, La. has been awarded contract by U. S. Engineers, Fort Sam Houston, for building Spec. 42-645, Coryell County, to exceed $1,000,000.

BUILDINGS, Texas
A. Farnell Blair, Decatur, Ga. will construct buildings, Coryell County. Estimated cost $7,600,000. U. S. Engineers, Fort Sam Houston let contract.

Note—Additional bidding and contract news on many projects large and small appear in the Construction News section beginning on page 17.

OBITUARY

Victor H. Strombach, former Irvington, N. J., engineer and architect, died Jan. 1. Mr. Strombach had served as senior partner in the Newark firm of Strombach and Mertens, and as chief engineer of the Goeller Iron Works of Newark, before opening his own offices in Irvington in 1919. He had been for many years an instructor and head of the architectural department of Fawcett Art School and was an officer of several business concerns in Irvington.

A. J. Trosnowski, 60, Houston, Texas, a civil engineer for the Cotton Belt Railroad, died recently at Waco, Texas.

Nicholas Stahl, 66, chief engineer of the Pennsylvania Power and Light Co. since 1928, died Jan. 1 at New Haven, Conn.

Walter G. Finch, 61, civil engineer of Lexington, N. C., died at Lexington Jan. 7.

Frank Grainger Godfroy, 70, superintendent of the city water and light department at New Bern, N. C., died Jan. 11. A native of Grand Rapids, Mich., Mr. Godfroy was once in charge of construction work for the Pennsylvania and Sante Fe railroads, and before coming to New Bern was general manager for the Warner Tucker Utilities at Florence, S. C.

Albert Thomas Connacher, 71, formerly superintendent of construction for the Canadian National Railways at Montreal, died at Montreal Jan. 4. A native of New Brunswick, Mr. Connacher had served the CNR for 35 years.

Jefferson Davis, 54, chief engineer of the Minden, La., light and water department for the past 23 years, died Jan. 12 at Linden.

Edward L. Harrington, 49, chief engineer of the Blaw-Knox Co.'s construction equipment department at Pittsburgh, Pa., died Jan. 14 at Canton, Ohio.

Frank H. Goodell, 66, Columbus, Ohio, retired structural engineer, died there Jan. 14.

Maj. Howard J. Cole, Sr., 78, retired engineer of Troy, N. Y., died there Jan. 10. Mr. Cole had been resident engineer in charge of sewer construction at Plattsburg, New Paltz, Pelham Manor and Saranac Lake.

Ernest J. Howe, 66, associate civil engineer of the New York State department of public works, died Jan. 7 at Poughkeepsie, N. Y. Mr. Howe had also served as chief engineer of the Taconic State Park Commission.

Arthur F. Brown, 78, retired superintendent of the municipal water department, died at Fitchburg, Mass., Jan. 17.

Albert Rankin, 76, at one time a civil engineer on the staff of the Boston & Maine Railroad, died at Waltham, Mass., Jan. 16.

Edward M. Craig, 82, secretary and business manager of the Building Construction Employers Association of Chicago, and a prominent figure for many years in Chicago construction industry, died Jan. 15 at Chicago. He became secretary of the Building Contractors Council in 1899, and remained with the organization when it was reorganized in 1912 into the Building Construction Employers Association. He was also president of the American Construction Council, and in 1921 was instrumental in the selection of Judge Kenesaw M. Landis to act in the famous arbitration and award in the building labor situation, which stabilized building labor conditions in Chicago.

J. T. Brown, 93, pioneer building contractor of Atlanta, Ga., died there Jan. 8.

Frank J. McGuinness, 75, retired contractor of Worcester, Mass., died Jan. 11.

George W. Parkhill, secretary of the Parkhill Dredging Co. of Jacksonville, Fla., died at his home Jan. 6. Mr. Parkhill had been prominent in state harbor work and civic affairs for many years.

CONTRACTS AND CAPITAL

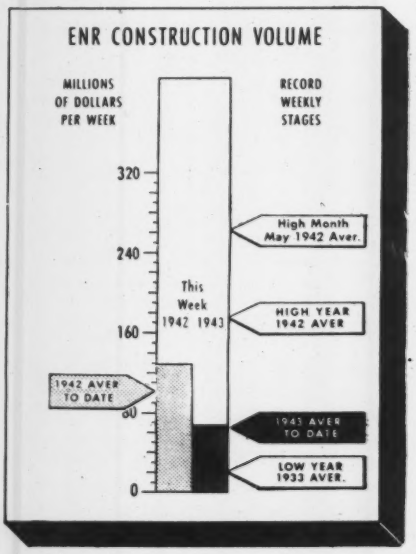
ENGINEERING CONSTRUCTION volume for the week, $67,930,000, is 28 percent higher than in the preceding week, but 47 percent below the total for the week ending January 22, 1942. Public and private top their respective totals of a week ago, the former gaining 28 percent, and the latter 22 percent. Both, however, are lower than a year ago, public declining 47 percent, and private 45 percent. Federal construction tops last week by 23 percent, but drops 44 percent below last year.

The current week's total brings 1943 construction to $184,971,000, an average of $61,657,000 for each of the three weeks. On the weekly average basis, the 1943 volume is 39 percent below that for the four-week period in 1942. Private work is 55 percent lower, and public construction is down 38 percent from a year ago, when adjusted for the difference in the total number of weeks.

In the classified construction groups, gains over last week are in industrial, commercial and public buildings, and streets and roads. Unclassified construction is the only class of work to report an increase over a year ago.

New capital for construction purposes for the week totals $2,388,000. This compares with $25,741,000 for the week last year. The current week's new financing is made up of $888,000 in state and municipal bond sales, and $1,500,000 in government loans for industrial expansion.

New construction financing for the year to date totals $3,066,000.



CONTRACTS

(Thousands of dollars)

	Week Ending Jan. 22 1942	Jan. 14 1943	Jan. 21 1943
Federal	$109,717	$48,827	$61,007
State & Municipal	11,599	1,420	3,426
Total public	$121,316	$50,247	$64,433
Total private	6,324	2,866	3,497
TOTALS	$127,640	$53,113	$67,930

Cumulative
1943 ..... (3 weeks) $184,971
1942 ..... (4 weeks) $407,086

Note: Minimum size projects included are: Waterworks and waterways projects, $15,000; other public works, $25,000; industrial buildings, $40,000; other buildings, $150,000.

NEW PRODUCTIVE CAPITAL

	Cumulative 1942 4 weeks	1943 3 weeks
NON-FEDERAL	$54,433	$3,066
Corp. Securities	22,074	.....
State & Mun.	21,059	1,566
R.F.C. loans	11,300	1,500
FEDERAL	$450,000	.....
TOTAL CAPITAL	$504,433	$3,066

ENR INDEX NUMBERS

Index Base = 100		1913	1926
Construction Cost	Jan. '43	283.45	136.25
Building Cost	Jan. '43	226.87	122.64
Volume	Dec. '42	227	100

FHA MORTGAGES

	Week Ending Jan. 17 1942	Jan. 9 1943	Jan. 16 1943
Selected for appraisal			
Title II	$12,727	$2,795	$3,377*
Title VI	$6,322	$9,298	$8,320*

* Subject to revision.